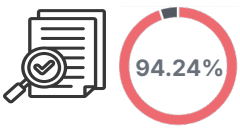
FOOD & BEVERAGE
EARLY FIRE DETECTION



WIDE AREA THERMAL MONITORING WITH RAPID ALERTS & MINIMAL FALSE ALARMS FOR FOOD SUPPLY CHAINS



100% correct fire identification.[1] In a performance trial, thermal imaging algorithms correctly flagged fire in 100% of cases, detecting flame signatures as soon as they appeared in view. For food and beverage sites, this supports earlier intervention in cluttered, heat-active areas where delays can quickly become asset loss, downtime, and stock disposal.



Virtually no false alarms.[1] In the same controlled test set, thermal imaging algorithms delivered 94.24% fire detection accuracy with a 0% false detection rate. Vital for food and beverage facilities, this matters because nuisance alarms interrupt production, trigger costly callouts, and erode trust in systems.



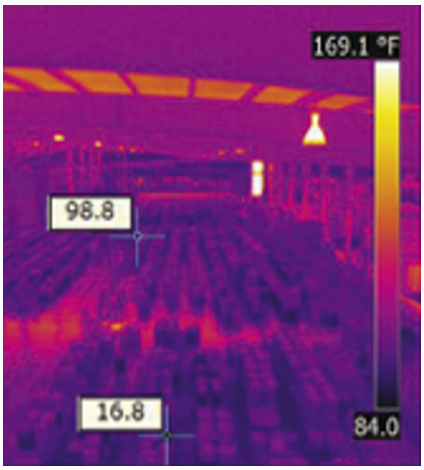
100% confidence.[1] All non-fire videos present in the controlled test which contained intentional false alarm risks (including sunlight reflections, headlights, and excavator engines) produced zero false alarms. This is highly relevant for food and beverage facilities where vehicle movement, outdoor glare, and hot equipment are normal, and quality is critical, making thermal imaging a

Early fire detection is critical in the food supply chain

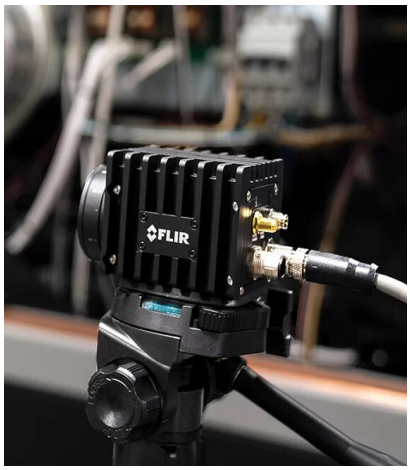
Food and beverage sites can be busy, warm, and cluttered, which makes early fire risk harder to spot and easier to misread. Traditional sensors often respond only once smoke or flame reaches them, which delays detection and limits coverage. When a fire is not caught early it can cause serious financial, environmental, and commercial distress for a company and the community, and even "contained" incidents can still drive costly damage, downtime, and product loss. Using non-contact thermal monitoring, automated infrared cameras can pinpoint hot spots and provide live temperature data updates up to 60 times per second, helping teams make faster, more informed decisions to intervene before incidents escalate.

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For food and beverage facility owners, earlier and clearer alerts are the practical difference between a small event and a disruptive one, especially in areas that are hard to patrol continuously. Thermal imaging detects abnormal heat at the source, providing earlier line-of-sight warning across wide spaces where point sensors may not offer practical coverage.



Paired with AI decision logic, thermal surveillance can distinguish true flame behaviour from non-flame heat sources such as engines, reflected sunlight, or artificial lighting. The KSII study demonstrates that adaptive thresholds plus motion and texture analysis can deliver high detection performance while eliminating false alarms.



Flir fixed thermal sensors provide 24/7 monitoring with options that suit different site layouts and risk profiles, including fixed smart sensors and pan-tilt thermal security cameras. Smart camera options include Flir A500f/A700f Advanced Smart Sensor, Flir A50/A70 Smart Sensor, Flir PT-Series AI SR, and FH-Series R and FH-Series R PTZ.

Key values

Detect fires earlier, before escalation

Thermal imaging detects flame heat growth and movement patterns the moment they appear, triggering alarms that support early intervention. In food and beverage plants, faster alerts can stop small ignition at ovens, fryers, forklifts, or packaging lines becoming asset loss, downtime, or stock disposal. Wide-area visibility also speeds decisions when response must be immediate to limit damage and disruption.

Cut false alarms without losing sensitivity

False alarms drain time, confidence, and continuity, especially in food and beverage production where stoppages waste batches and trigger clean-downs. AI-driven flame filtering reduces nuisance events from hot non-flame sources like steam plumes, washdown glare, vehicle lights, and warm equipment. The result is reliable detection for automated response, without constant verification or repeated resets that weaken discipline.

Monitor large areas continuously

Wide-area thermal surveillance covers spaces point sensors cannot, delivering early warning across food and beverage sites with minimal blind spots. This supports cost-effective coverage across yards, loading bays, waste and recycling zones, cooking areas, high-bay storage, and chilled docks, and plant rooms. Continuous monitoring also protects low-attendance spaces where risks develop between rounds, shifts, or patrols.

Key applications

Flir thermal imaging for early fire detection in your food and beverage site

Stop fires before they spread and spoil output

Complete assurance in outdoor, perimeter, and yard areas

Food and beverage sites often have outdoor zones where vehicle traffic, waste handling, and open storage make conventional detection patchy. Wide-area thermal monitoring supports perimeter surveillance across yards, loading bays, bin stores, and exposed packaging or pallet areas where early warning matters and point sensors are impractical. AI filtering reduces nuisance alarms from headlights, reflected sunlight, and hot equipment, keeping alerts actionable overnight.

Stronger protection for warehouses, logistics, and high heat storage zones

Food and beverage warehouses and logistics areas can hold dense inventory, packaging films, cartons, and pallets, where fires spread quickly and losses escalate fast even with suppression. Thermal imaging alarms on rising temperatures and flame signatures before incidents grow. It is also well suited for waste compaction, recycling areas, and hot-process storage zones where heat builds quietly and automated monitoring is essential.

Reliable oversight for remote or low-attendance infrastructure

Fixed thermal monitoring provides 24/7 coverage without relying on constant human presence. In food and beverage environments, this helps protect low-traffic areas such as plant rooms, chilled docks, back-of-site waste zones, and outbuildings where risks can develop between checks, after hours, or when staffing is light, enabling earlier intervention and consistent oversight.

Flir thermal imaging triggers faster alarms, reduces nuisance events, expands coverage and radically improves response outcomes for your food and beverage facility—wherever in the supply chain you operate from.

Sources

1 Jeong SY, Kim WH. Thermal Imaging Fire Detection Algorithm with Minimal False Detection. KSII Transactions on Internet and Information Systems (TIIS). 2020; published May 31, 2020. doi:10.3837/tiis.2020.05.016.

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